

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A floor cleaning apparatus comprising:

a housing with a bottom portion that is adapted to rest on a surface being cleaned and ~~a carriage assembly support above that defines an opening in an underside of the housing;~~

a fluid delivery system mounted to the housing and including a fluid distributor for delivering a cleaning fluid to the surface to be cleaned beneath the opening in the underside the housing and a fluid flow regulator connected to the fluid distributor for controlling the flow of cleaning fluid to the fluid distributor;

a fluid extraction system including a suction nozzle connected to a fan driven by a fan motor for recovering soiled cleaning fluid from the surface to be cleaned beneath the opening in the underside of the housing; ~~and~~

at least one carriage mounting the fluid distributor and the suction nozzle to the housing ~~the carriage assembly support for translational movement with respect to the housing along the surface to be cleaned so that the suction nozzle and the fluid distributor move laterally with respect to the surface to be cleaned;~~

a controller operably connected to at least one of the fluid flow regulator and the fan motor for independently controlling the delivery of cleaning fluid to the surface being cleaned and the recovery of soiled cleaning fluid from the surface to be cleaned in a predetermined relationship.

2. (Currently Amended) The floor cleaning apparatus according to claim 1 and further including a scrubbing implement mounted to the at least one carriage for translational movement ~~with the fluid distributor and the suction nozzle and~~ for scrubbing contact with the surface to be cleaned.

3. (Currently Amended) The floor cleaning apparatus according to claim 2 wherein the at least one carriage comprises a single carriage that mounts the scrubbing implement, the fluid distributor, and the suction nozzle~~move as a unit with respect to the housing.~~

4. (Currently Amended) The floor cleaning apparatus according to claim ~~3~~1 wherein the ~~translational~~ movement of the suction nozzle is orbital.

5. (Currently Amended) The floor cleaning apparatus according to claim 14 wherein the at least one carriage comprises a gear system for motion of the fluid distributor and the suction nozzle with respect to the housing.

6. (Currently Amended) The floor cleaning apparatus according to claim ~~3~~1 wherein the ~~translational~~ movement of the suction nozzle is linear.

7. (Currently Amended) The floor cleaning apparatus according to claim ~~3~~ wherein the ~~translational~~ movement of the suction nozzle is circular.

8. (Currently Amended) The floor cleaning apparatus according to claim 21 and further including ~~wherein the scrubbing implement is a brush~~ mounted to the at least one carriage for movement with respect to the housing in scrubbing contact with the surface to be cleaned.

9. (Currently Amended) The floor cleaning apparatus according to claim 21 and further including ~~wherein the scrubbing implement is a cloth~~ mounted to the at least one carriage for movement in scrubbing contact with the surface to be cleaned.

10. (Currently Amended) The floor cleaning apparatus according to claim 21 and further including ~~wherein the scrubbing implement is a foam pad~~ mounted to the at least one carriage for movement in scrubbing contact with the surface to be cleaned.

11. (Previously Presented) The floor cleaning apparatus according to claim 1 wherein the distributor comprises at least one spray nozzle.

12. (Currently Amended) The floor cleaning apparatus according to claim ~~3~~1 wherein the distributor is a manifold with spaced openings.

13. (Previously Presented) The floor cleaning apparatus according to claim 1 wherein the suction nozzle is L-shaped.

14. (Previously Presented) The floor cleaning apparatus according to claim 1 wherein the suction nozzle is T shaped.

15. (Currently Amended) The floor cleaning apparatus according to claim 1 and further comprising a motor mounted to the housing and connected to the carriage for driving the ~~translational~~ movement of the carriage with respect to the housing.

16. (Currently Amended) The floor cleaning apparatus according to claim 15 and further comprising a power supply for connected to the motor ~~carried by the housing~~ and ~~a the controller mounted to the housing and is connected to the motor power supply~~ for controlling the power ~~supply~~ to the motor.

17. (Currently Amended) The floor cleaning apparatus according to claim 16 wherein the controller is programmed to supply power to the motor for a first predetermined period of time and to discontinue power to the motor ~~for a second~~ after the first predetermined period of time.

18. (Previously Presented) The floor cleaning apparatus according to claim 1 wherein the fluid supply system comprises a first fluid tank with an outlet opening and a second fluid tank with an outlet opening, wherein the outlet openings of the first fluid tank and the second fluid tank are connected to supply a mixture of first and second fluids from the first fluid tank and the second fluid tank to the fluid distributor.

19. (Previously Presented) The floor cleaning apparatus according to claim 18 wherein the outlet openings of the first fluid tank and the second fluid tank are connected through a mixing valve.

20. (Currently Amended) The floor cleaning apparatus according to claim 19 ~~and further comprising a wherein the controller mounted to the housing and is~~ connected to the mixing valve, and the controller is programmed to control the relative amounts of the first and second fluids combined in the mixing valve.

21. (Previously Presented) The floor cleaning apparatus according to claim 20 wherein the controller is programmed to control the mixing valve to deliver a predetermined concentration of the first fluid and the second fluid to the fluid distributor for a first predetermined length of time and to deliver only the second fluid for a rinse cycle for a second predetermined length of time.

22. (Currently Amended) The floor cleaning apparatus according to claim 21 ~~wherein the fluid supply system further~~ flow regulator comprises a controllable flow valve or a controllable pump between the mixing valve and the fluid distributor and the controller is connected to the controllable flow valve or controllable pump to control the flow of fluid from the mixing valve to the fluid distributor.

23. (Currently Amended) The floor cleaning apparatus according to claim 22 wherein the controller is programmed to open the flow control valve or operate the pump during a third predetermined period of time and to close the flow control valve or cease operation of the pump during a fourth predetermined period of time.

24. (Previously Presented) The floor cleaning apparatus according to claim 1 wherein the fluid extraction system further comprises a hose connected at one end to the housing and at another end to a surface cleaning tool for extraction of fluids from surfaces other than beneath the opening in the underside of the housing.

25. (Previously Presented) The floor cleaning apparatus according to claim 24 wherein the fluid supply system further includes a fluid supply conduit associated with the hose and connected to the surface cleaning tool for delivering fluids to areas other than beneath the opening in the underside of the housing.

26. (Previously Presented) The floor cleaning apparatus according to claim 1 and further comprising a cord wrap element mounted to the housing for movement between an extended position for wrapping an electrical cord in a compact configuration and a retracted position for concealing the cord wrap element.

27. (Currently Amended) The floor cleaning apparatus according to claim 1 and further comprises a resilient biasing element between the housing ~~carriage~~ and the ~~carriage assembly support~~ suction nozzle for resiliently biasing the suction nozzle ~~and the scrubbing implement, if any,~~ onto the surface to be cleaned.

28. (Previously Presented) The floor cleaning apparatus according to claim 26 wherein the biasing force of the biasing element is less than the weight of the housing.

29. (Previously Presented) The floor cleaning apparatus according to claim 1 and further comprising an ion generator mounted on the housing.

30. (Previously Presented) The floor cleaning apparatus according to claim 1 and further comprising a sonic generator mounted to the housing for directing sound waves to the surface to be cleaned at a frequency that loosens debris from the surface.

31. (Currently Amended) The floor cleaning apparatus according to claim 1 and further comprising a plurality of condition floor sensors mounted to the housing for detecting the level of soil on the floor to be cleaned and connected to the controller, wherein the floor sensors are adapted to generate for generating a control signal representative ~~thereof~~ of the level of soil on the floor to be cleaned and applying the

control signal to the controller for controlling at least one of the fluid delivery system and the fluid extraction system in response thereto.

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (New) A surface cleaning apparatus according to claim 1 wherein the at least one carriage further mounts the fluid distributor.

40. (New) A surface cleaning apparatus according to claim 1 and further including a scrubbing implement mounted to the at least one carriage for translational movement in scrubbing contact with the surface to be cleaned and wherein the at least one carriage comprises a first carriage that mounts the suction nozzle, a second carriage that mounts the fluid distributor and a third carriage that mounts the scrubbing implement for independent movement with respect to each other.

41. (New) A floor cleaning apparatus according to claim 1 and further comprising a plurality of floor condition sensors mounted to the housing for detecting the level of soil on the floor to be cleaned and for generating a control signal representative thereof; and wherein the controller is adapted to adjust the delivery of cleaning fluid responsive to the control signal.

42. (New) A floor cleaning apparatus according to claim 1 and further comprising a mechanism for driving the at least one carriage in at least two translational directions.

43. (New) A floor cleaning apparatus according to claim 42 wherein the at least two translational directions are opposite each other.

44. (New) A floor cleaning apparatus according to claim 1 and further comprising a heater incorporated within the fluid delivery system to heat the cleaning fluid to a temperature less than boiling prior to delivery of the cleaning fluid to the surface to be cleaned.

45. (New) A floor cleaning apparatus according to claim 1 and further comprising an electrically powered drive for driving the translational movement of the at least one carriage and a battery power source mounted to the housing and connected to the electrically powered drive for supplying electrical energy thereto.

46. (New) A floor cleaning apparatus according to claim 1 wherein at least a portion of the housing is adjacent the opening in an underside of the housing is made of a transparent or translucent material so that the area within the opening and the at least one carriage are visible to the user from outside the housing.

47. (New) A floor cleaning apparatus according to claim 1 and further comprising a handle integrally formed at an upper portion of the housing to facilitate easy carrying of the floor cleaning apparatus.

48. (New) A floor cleaning apparatus according to claim 20 and further including a scrubbing implement mounted to the at least one carriage for translational movement in scrubbing contact with the surface to be cleaned and the controller is operably connected the fluid flow regulator, the fan motor, the mixing valve and the at

least one carriage, and wherein the controller is programmed with multiple duty cycles to vary the fluid delivery, fluid mixing, scrubbing, and suction dwell times.

49. (New) A floor cleaning apparatus according to claim 48 and further comprising a at least one floor condition sensor mounted to the housing for detecting the level of soil on the floor to be cleaned and for generating a control signal representative thereof; and wherein the controller is adapted to select one of the multiple duty cycles responsive to the control signal.

50. (New) A floor cleaning apparatus according to claim 1 and further comprising grippers on the bottom portion of the housing to increase friction between surface being cleaned and the bottom portion of the housing that rests on the surface and thereby minimize relative movement between the housing and the surface to be cleaned.

52. (New) A floor cleaning apparatus according to claim 1 wherein the fluid delivery system includes at least one fluid tank and wherein the at least one fluid tank is pressurized with an aerosol propellant.

53. (New) A floor cleaning apparatus comprising:
a housing with a bottom portion that is adapted to rest on a surface being cleaned and that defines an opening in an underside of the housing;
a fluid delivery system mounted to the housing and including a fluid distributor for delivering a cleaning fluid to the surface to be cleaned beneath the opening in the underside the housing;
a fluid extraction system including a suction nozzle connected to a fan driven by a fan motor for recovering soiled cleaning fluid from the surface to be cleaned beneath the opening in the underside of the housing;
at least one carriage mounting the suction nozzle to the housing for movement with respect to the housing and with respect to the surface to be cleaned;

a carriage motor mounted to the housing and connected to the carriage for driving the movement of the carriage with respect to the housing;

a power supply connected to the carriage motor and to the fan motor;

a controller mounted to the housing and to the power supply for controlling the power supply to the carriage motor and to the fan motor; and

the controller is programmed to supply power to the carriage motor for a first and second predetermined period of time and supply power to the fan motor for the first period of time and to discontinue power to the fan motor for a second predetermined period of time.

54. (New) The floor cleaning apparatus according to claim 53 wherein the fluid distributor is also mounted to the at least one carriage.

55. (New) A floor cleaning apparatus comprising:

a housing with a bottom portion that is adapted to rest on a surface being cleaned and that defines an opening in an underside of the housing;

a fluid delivery system mounted to the housing and including a fluid distributor for delivering a cleaning fluid to the surface to be cleaned beneath the opening in the underside the housing;

a fluid extraction system including a suction nozzle connected to a fan driven by a fan motor for recovering soiled cleaning fluid from the surface to be cleaned beneath the opening in the underside of the housing;

at least one carriage mounting the suction nozzle to the housing for movement with respect to the housing and with respect to the surface to be cleaned;

a plurality of floor condition sensors mounted to the housing for detecting the level of soil on the floor to be cleaned and for generating a control signal representative thereof; and

the controller is adapted to adjust the delivery of cleaning fluid to the surface to be cleaned responsive to the control signal.

56. (New) A floor cleaning apparatus comprising:

a housing with a bottom portion that is adapted to rest on a surface being cleaned and that defines an opening in an underside of the housing;

a fluid delivery system mounted to the housing and including a fluid distributor for delivering a cleaning fluid to the surface to be cleaned beneath the opening in the underside the housing;

a fluid extraction system including a suction nozzle connected to a fan driven by a fan motor for recovering soiled cleaning fluid from the surface to be cleaned beneath the opening in the underside of the housing;

at least one carriage mounting the suction nozzle to the housing for movement with respect to the housing and with respect to the surface to be cleaned;

a carriage motor mounted to the housing and connected to the carriage for driving the movement of the carriage with respect to the housing;

a power supply connected to the carriage motor and to the fan motor;

a controller mounted to the housing and to the power supply for controlling the power supply to the carriage motor and to the fan motor; and

the controller is programmed to supply power to the carriage motor the fan motor for a predetermined period of time and to discontinue power to the carriage motor and the fan motor subsequent to the predetermined period of time.

57. (New) A floor cleaning apparatus comprising:

a housing with a bottom portion that is adapted to rest on a surface being cleaned and that defines an opening in an underside of the housing;

a fluid delivery system mounted to the housing and including a fluid distributor and a fluid flow regulator connected to the fluid distributor for controlling the flow of cleaning fluid to the fluid distributor for delivering a cleaning fluid to the surface to be cleaned beneath the opening in the underside the housing;

a fluid extraction system including a suction nozzle connected to a fan driven by a fan motor for recovering soiled cleaning fluid from the surface to be cleaned beneath the opening in the underside of the housing;

at least one carriage mounting the suction nozzle to the housing for movement with respect to the housing and with respect to the surface to be cleaned;

a scrubbing implement mounted to the at least one carriage for translational movement in scrubbing contact with the surface to be cleaned;

a carriage motor mounted to the housing and connected to the carriage for driving the movement of the carriage with respect to the housing;

a power supply connected to the carriage motor and to the fan motor;

a controller mounted to the housing and connected to the power supply for controlling the power supply to the carriage motor and to the fan motor, and the controller is operably connected the fluid flow regulator; and

wherein the controller is programmed with multiple duty cycles to vary the fluid delivery, scrubbing, and suction dwell times.

58. (New) A floor cleaning apparatus according to claim 57 and further comprising at least one floor condition sensor mounted to the housing for detecting the level of soil on the floor to be cleaned and for generating a control signal representative

thereof; and wherein the controller is adapted to select one of the multiple duty cycles responsive to the control signal.

59. (New) A floor cleaning apparatus according to claim 57 wherein the fluid supply system comprises a first fluid tank with an outlet opening and a second fluid tank with an outlet opening, wherein the outlet openings of the first fluid tank and the second fluid tank are connected to supply a mixture of first and second fluids from the first fluid tank and the second fluid tank to the fluid distributor, the outlet openings of the first fluid tank and the second fluid tank are connected through a mixing valve; and

wherein the controller is connected to the mixing valve, and the controller is programmed to control the relative amounts of the first and second fluids combined in the mixing valve during the multiple duty cycles.